

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

POWER INTEGRATIONS, INC.,)	REDACTED PUBLIC VERSION
)	
Plaintiff,)	
)	
v.)	C.A. No. 04-1371-JJF
)	
FAIRCHILD SEMICONDUCTOR)	
INTERNATIONAL, INC., and FAIRCHILD)	
SEMICONDUCTOR CORPORATION,)	
)	
Defendants.)	

**OPENING BRIEF IN SUPPORT OF DEFENDANTS' MOTION FOR
SUMMARY JUDGMENT OF UNENFORCEABILITY AND
INVALIDITY OF U.S. PATENT NOS. 6,107,851 AND 6,229,366**

ASHBY & GEDDES
Steven J. Balick (I.D. #2114)
John G. Day (I.D. #2403)
Lauren E. Maguire (I.D. #4261)
222 Delaware Avenue, 17th Floor
Wilmington, Delaware 19801
Telephone: 302-654-1888
sbalick@ashby-geddes.com
jday@ashby-geddes.com
lmaguire@ashby-geddes.com

Attorneys for Defendants

Of Counsel:

G. Hopkins Guy, III
Vickie L. Feeman
Bas de Blank
Brian H. VanderZanden
ORRICK, HERRINGTON & SUTCLIFFE LLP
1000 Marsh Road
Menlo Park, CA 94025
(650) 614-7400

Dated: March 24, 2006

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. BACKGROUND	3
A. The '851 And '366 Patent Specifications Are Identical.	3
B. Power Integrations' Inventors And Attorneys Swore To Provide The Patent Office With Material Prior Art.	3
C. Power Integrations Failed to Disclose Its Own Prior Art Devices or Products.....	4
D. Prior Art Figure 1 Was Highly Material.	5
E. Power Integrations' Written Description of Its SMP211 Was Misleading.....	5
F. The Examiner Rejected Pending Claims As Anticipated By Figure 1.	6
G. To Overcome The Examiner's Rejection, Power Integrations Amended Its Claims To Copy the Oscillator With Maximum Duty Cycle Signal Limitation And Stated That The Prior Art Did Not Disclose Such An Oscillator.....	7
H. A Simple Review of the Power Integrations' SMP211 Datasheets Shows an Oscillator That Generates a Maximum Duty Cycle Signal.....	8
I. A Comparison Of The SMP211 Datasheet with the "Preferred Embodiment" Of The Patents Confirms That The SMP211 Is Highly Material.	10
J. Power Integrations Withheld Other Material Prior Art Devices From The Examiner.	11
K. Power Integrations' Withholding of its SMP240 and SMP260 Devices Was Particularly Wrongful.	11
III. ANALYSIS.....	13
A. The '851 And '366 Patents Are Unenforceable Due To Power Integrations' Inequitable Conduct.....	13
1. Summary Judgment of Inequitable Conduct Is Appropriate.	13
2. Power Integrations' affirmative misrepresentations and withheld prior art was highly material to the '851 Patent.....	14
3. Power Integrations intentionally withheld information about the SMP211, SMP240, and SMP260 from the Examiner during prosecution of the '851 and '366 Patents.....	17

TABLE OF CONTENTS
(continued)

	Page
a. The applicants were undeniably aware of the SMP3, SMP211, SMP240, and SMP260 prior to the prosecution of the '851 and '366 Patents.....	18
b. The applicants knew or should have known that the SMP3, SMP211, SMP240, and SMP260 were material to the patentability of the '851 and '366 Patents.	18
c. The applicants have no credible explanation for withhold the SMP211, SMP240 and SMP260 devices.....	21
B. Asserted Claims Of The '851 Patent Are Invalid In Light Of The SMP211 And The Admitted Prior Art.	23
1. Claims 1, 10 and 11 of the '851 Patent are anticipated by Figure 1 and the SMP211.....	23
2. Claims 9 and 17 of the '851 Patent are anticipated by Figure 1 and the SMP211.....	24
3. Claim 7 of the '851 Patent is anticipated by Figure 1 and the SMP211.	25
4. Claims 2 and 16 of the '851 Patent are obvious in light of Figure 1 and the SMP211.....	25
C. Asserted Claims Of The '366 Patent Are Invalid In Light Of The SMP211 And The Admitted Prior Art And/Or The SMP240 And SMP260 Devices.....	26
1. Claims 1 and 9, and 10 of the '366 Patent are anticipated by Figure 1 and the SMP211.....	26
2. Claim 14 of the '366 Patent is anticipated by Figure 1 and the SMP211.	28
3. Claims 8 and 18 of the '366 Patent are anticipated by Figure 1 and the SMP211.....	28
4. Claims 2 and 16 of the '366 Patent are obvious in light of Figure 1 and the SMP211.....	29
5. Claims 1, 2, 9, 10 and 16 of the '366 Patent are anticipated by Power Integrations' SMP240 and SMP260 devices	29
IV. CONCLUSION.....	30

TABLE OF AUTHORITIES

FEDERAL CASES

	Page
<i>Anderson v. Liberty Lobby, Inc.</i> , 477 U.S. 242 (1986).....	13
<i>Apex Inc. v. Raritan Computer, Inc.</i> , 325 F.3d 1364 (Fed. Cir. 2003).....	27
<i>Baxter Int'l, Inc. v. McGaw, Inc.</i> , 149 F.3d 1321 (Fed. Cir. 1998).....	17
<i>Brasseler, U.S.A. v. Stryker Sales Corp.</i> , 267 F.3d 1370 (Fed. Cir. 2001).....	20
<i>Celotex Corp. v. Catrett</i> , 477 U.S. 317 (1986).....	13
<i>Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.</i> , 120 F.3d 1253 (Fed. Cir. 1997).....	17, 20
<i>Digital Control Inc. v. Charles Machine Works</i> , 2006 U.S. App. LEXIS 2991 (Fed. Cir. Feb. 8, 2006)	14, 16
<i>FMC Corp. v. Manitowoc Co.</i> , 835 F.2d 1411 (Fed. Cir. 1987).....	20
<i>Ferring B.V. v. Barr Labs, Inc.</i> , 2006 U.S. App. LEXIS 3554 (Fed. Cir. Feb. 15, 2006)	13, 17, 18, 21
<i>Fox Indus., Inc. v. Structural Preservation Systems, Inc.</i> , 922 F.2d 801 (Fed. Cir. 1990).....	16, 29
<i>Lighting World, Inc. v. Birchwood Lighting, Inc.</i> , 382 F.3d 1354 (Fed. Cir. 2004).....	27
<i>Linear Tech. Corp. v. Impala Linear Corp.</i> , 379 F.3d 1311 (Fed. Cir. 2004).....	27
<i>Merck & Co., Inc. v. Danbury Pharmacal, Inc.</i> , 873 F.2d 1418, 1422 (Fed. Cir. 1989).....	17, 20
<i>Molins PLC v. Textron, Inc.</i> , 48 F.3d 11172 (Fed. Cir. 1995).....	13, 14

TABLE OF AUTHORITIES
(continued)

	Page
<i>Novo Nordisk Pharm., Inc., v. Bio-Technology Gen. Corp.</i> , 424 F.3d 1347 (Fed. Cir. Oct. 5, 2005).....	14
<i>Paragon Podiatry Labs., Inc. v. KLM Labs., Inc.</i> , 984 F.2d 1182 (Fed. Cir. 1993).....	13, 20, 21
<i>SRI Int'l v. Matsushita Elec. Corp.</i> , 775 F.2d 1107 (Fed. Cir. 1985).....	13
<i>Semiconductor Energy Lab. Co. v. Samsung Elecs. Co.</i> , 4 F. Supp. 2d 477 (D. Va. 1998).....	22
<i>Warner-Lambert Co. v. Teva Pharms. USA, Inc.</i> , 418 F.3d 1326 (Fed. Cir. 2005).....	13
<i>Watts v. XL Sys., Inc.</i> , 232 F.3d 877 (Fed. Cir. 2000).....	27

FEDERAL STATUTES

35 U.S.C. 102.....	<i>passim</i>
35 U.S.C. 103.....	25
37 C.F.R. 1.56(b)	14
Fed. R. Civ. P. 56(c)	13

I. INTRODUCTION.

Plaintiff Power Integrations, Inc. ("Power Integrations") affirmatively misrepresented its own prior art pulse width modulation switch products during the prosecution of the '851 and '366 Patents. Both Patents directly claim improvements to these devices. The prosecution history reveals that the Examiner relied directly on this misrepresentation in allowing claims now asserted against Defendants Fairchild Semiconductor International, Inc. and Fairchild Semiconductor Corp. (collectively "Fairchild"). Thus, the '851 and '366 Patents should be held unenforceable due to Power Integrations' inequitable conduct.

Power Integrations' three inventors all signed affidavits acknowledging under penalty of perjury their affirmative duty to provide material prior art to the Patent Office. In prosecution of both Patents, the inventors and Power Integration submitted a single Prior Art Figure 1 of a circuit that contained a Power Integrations product, the SMP211, but failed to disclose critical details of its operation. Power Integrations also submitted over 75 "prior art" references from other sources. Yet, none of these 75 references were as material as Power Integrations' own products or the details of the Power Integrations SMP211. Indeed, the attorney who prosecuted the '366 Patent admitted

REDACTED

After reviewing the blizzard of references submitted by Power Integrations, the only prior art expressly relied upon by the Examiner to reject the pending claims was Prior Art Figure 1 of the '851 Patent. During prosecution of the '851, the Examiner specifically stated his reasons for allowing the claims was because the Prior Art Figure 1 provided by Power Integrations did not include "an oscillator for generating a maximum duty cycle signal and a signal with a frequency range dependent on a frequency variation circuit." True to his word, the Examiner then rejected all other claims that lacked such limitations while allowing those claims that recited them. Claim 1 of the '851, now asserted against Fairchild, was allowed for this reason.

In response, Power Integrations amended the remaining rejected claims by copying the limitations allegedly missing from the Prior Art Figure 1. Power Integrations assured the

Examiner that “the Prior Art Figure 1 fails to disclose, teach or suggest such limitations.” Thus, the Examiner allowed the remaining contested claims.

Power Integrations’ affirmative representation that the Prior Art Figure 1 did not teach “an oscillator for generating a maximum duty cycle signal” was false. Power Integrations now admits that its own prior art device identified in the figure – the SMP211 – contained such an oscillator and that it generated a maximum duty cycle signal. Moreover, this was not an innocent or inadvertent oversight by Power Integrations. Balu Balakrishnan – the lead inventor of the ‘851 Patent – designed the SMP211 and clearly understood its functionality and significance. In contrast, Power Integrations oblique reference to the SMP211 in the Prior Art Figure 1 of the ‘851 Patent and misleading written description lead the Examiner to allow claims that cover the Power Integrations prior art circuit. Power Integrations never provided the Examiner with any details of the design or operation of the SMP211, its internal oscillator, or its capability to generate a maximum duty cycle signal.

The SMP211 was not the only material prior art Power Integrations device withheld from the Examiner. Power Integrations’ now admits that during the prosecution of the ‘851 and ‘366 Patents

REDACTED

. Exh. L, Balakrishnan Depo. (Rough), 162:14-20. Yet, during prosecution of the ‘851 and ‘366 patents, Power Integrations failed to provide the Patent Office with *any* evidence concerning *any* of Power Integrations prior art products or whether the contained an oscillator for generating a maximum duty cycle signal.

For example, Leif Lund – another of the inventors of the Patents – designed Power Integrations’ prior art SMP240 and SMP260 devices. Mr. Lund testified that these devices incorporated a monolithic, digital soft start circuit – precisely as set forth in the claims of the ‘366 Patent and the original claims of the ‘851 Patent. Indeed, Mr. Lund admitted that the prior art SMP240 and SMP260 devices incorporated each and every element of many of the claims now asserted against Fairchild. Power Integrations intentionally withheld this highly material prior art from the Patent Office in order to secure allowance of its ‘851 and ‘366 Patents.

Power Integrations' decision to withhold from the Examiner all details of its prior art devices – including the SMP3, SMP211, SMP240 and SMP260 – coupled with Power Integrations' material mischaracterization of the Prior Art in Figure 1 constitutes inequitable conduct. Thus, the '851 and '366 Patents should be held unenforceable. At a minimum, the withheld prior art invalidates many claims of the '851 and '366 Patents under 35 U.S.C. §102.

II. BACKGROUND.

A. The '851 And '366 Patent Specifications Are Identical.

Both Patents relate to pulse width modulated switches manufactured by Power Integrations and used in electronic power supplies. On May 18, 1998, Power Integrations filed the application that led to the '851 and '366 Patents, which are attached hereto as Exhibits A and B.¹ That original application claimed pulse width modulated (or "PWM") devices with a frequency variation circuit or a soft start circuit. Exh. C, '851 Pros. History, FCS0000370-79.

The Examiner issued a "restriction requirement" that the soft start and frequency variation concepts were distinct inventions and only one could be prosecuted at a time. Exh. C, '851 Pros. History, FCS0000423. Thus, Power Integrations cancelled the claims directed to a soft start circuit (*id.*, FCS0000431) and elected to pursue the frequency variation concept. The original application ultimately issued as the '851 Patent. Exh. A.

On May 16, 2000, Power Integrations filed a "divisional application" directed to the cancelled soft start claims. This application issued as the '366 Patent. Exh. B. As a divisional application, all figures of the '366 Patent are identical to those of the '851 Patent and the specification of the '366 Patent is essentially identical to that of the '851 Patent.²

B. Power Integrations' Inventors And Attorneys Swore To Provide The Patent Office With Material Prior Art.

At the time the application for the '851 Patent was filed, each of the three applicants

¹ For the convenience of the Court, Fairchild has highlighted the relevant passages of certain exhibits in yellow. In all such cases, the highlighting has been added by Fairchild and is not part of the original exhibit.

² The only difference between the two specifications is that the '366 Patent includes a "cross-reference" referring to the earlier '851 Patent. '366 Patent, 1:5-9. Thus, citation will be typically made to either the '851 or '366 Patents. In all cases, the exact support also appears in the other patent.

signed and acknowledged under penalty of perjury their “duty to disclose information which is material to the patentability of th[e] application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).” *Id.*, ‘851 Pros. History, FCS0000390. To avoid any possible ambiguity, section 1.56(a) was set forth in its entirety in the affidavit they signed. It clearly explained the applicants’ responsibility to provide prior art and the consequence of their failure so to do:

A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, *which includes a duty to disclose to the Office all information known to that individual to be material to patentability* as defined in this section.... [N]o patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct.

Exh. C, ‘851 Pros. History, FCS0000391. The same affidavit was used in the application resulting in the ‘366 Patent. Exh. D, ‘366 Pros. History, FCS0000272-274.

C. Power Integrations Failed to Disclose Its Own Prior Art Devices or Products.

Neither the inventors nor their attorneys provided any detailed information concerning Power Integrations’ own prior art devices or products. Indeed, at least one of the applicants – Leif Lund – testified that he made no effort at all to provide any prior art to the Patent Office. Exh. F, Lund Depo., 75:3-16. Power Integrations failed to provide any datasheet, schematic, or published article on its pulse width modulated switches.

Rather than provide the Patent Office with information about Power Integrations’ own prior art devices, Power Integrations dumped over 75 less pertinent references on the Examiner. Exh. C, ‘851 Pros. History, FCS0000407-413; Exh. D, ‘366 Pros. History, FCS0000288-290. The Power Integrations attorney who prosecuted Power Integrations’ ‘366 Patent testified that he

REDACTED

M, Go Depo., 93:23-97:22. Critically, none of the over 75 references submitted by Power

Integrations was considered significant enough by the Examiner to warrant any discussion in the prosecution history. The Examiner relied solely upon Prior Art Figure 1 in rejecting Power Integrations' proposed claims. Thus, Power Integrations' Prior Art Figure 1 is highly material.

D. Prior Art Figure 1 Was Highly Material.

Figure 1 is labeled "PRIOR ART" and described by Power Integrations as "a known power supply utilizing both a pulse width modulated switch, and external soft start, and frequency fitter functionality." '851 Patent, 4:37-39; *see also* 2:27-28 ("Referring to FIG. 1 a known power supply that attempts to minimize EMI and reduce startup stress is depicted.").

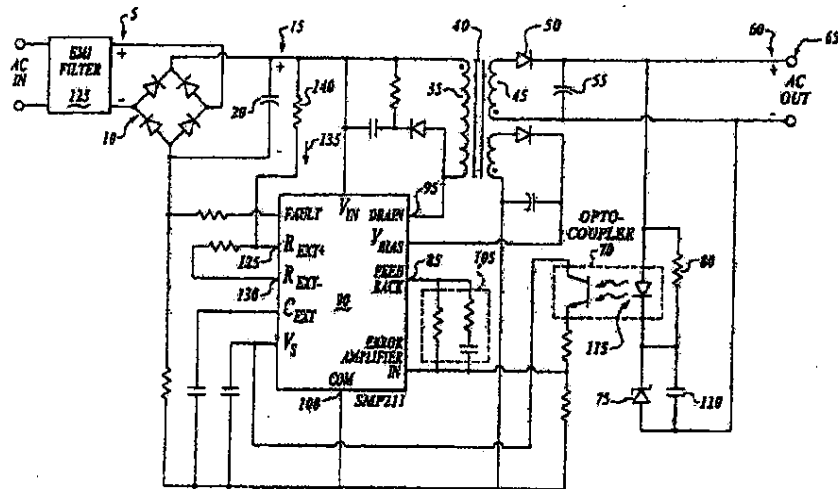


Fig. 1 (PRIOR ART)

The "PRIOR ART" label was added because the Examiner noted that "only that which is old is illustrated" in Figure 1. Exh. C, '851 Pros. History, FCS0000423. Power Integrations amended Figure 1 to designate it as "Prior Art" without objection. *Id.*, FCS0000431. Power Integrations never explained to the Patent Office what the notation "SMP211" meant.

E. Power Integrations' Written Description of Its SMP211 Was Misleading.

Although labeled "SMP211" in the Prior Art Figure 1, Power Integrations provided no datasheet for the SMP211 to the Patent Office. Power Integrations' SMP211 datasheet provides over 19 pages of detailed information, including a block diagrams of its internal components. *See* Exh. I. Despite the fact that Power Integrations had ready access to its own datasheet and had distributed them freely to its customers, Power Integrations failed to provide this detailed

information to the Patent Office, which clearly lacked similar access to the datasheet. Instead,

Power Integrations provided a far-less detailed description in the '851 and '368 Patents:

To reduce the EMI output by the power supply an EMI filter 120 is utilized. Additionally, pulse width modulated switch 90 is equipped with frequency oscillation terminals 125 and 130. Frequency oscillation terminal 125 and 130 receive a jitter current 135 that varies according to the ripple component of substantially DC voltage 15. The jitter current 135 is used to vary the frequency of the saw-toothed waveform generated by the oscillator contained in the pulse width modulated switch 90. The saw toothed waveform generated by the oscillator is compared to the feedback provided at the feedback pin 85. As the frequency of the saw toothed waveform varies, so will the switching frequency of the switch coupled between the drain and common terminal. This allows the switching frequency of the switch to be spread over a larger bandwidth, which minimizes the peak value of the EMI generated by the power supply at each frequency. By reducing the EMI the ability to comply with government standards is increased, because the government standards specify quasi-peak and average values at given frequency levels. Varying the frequency of operation of the pulse width modulated switch by varying the oscillation frequency of the oscillator is referred to as frequency jitter.

'851 Patent, 3:9-30. While the pulse width modulations switch (90) (the SMP211) is described as having an oscillator, PI withheld the critical information regarding the oscillator's ability to generate a maximum duty cycle signed as called out in all claims.

F. The Examiner Rejected Pending Claims As Anticipated By Figure 1.

There were only two independent claims pending in the original '851 patent application – claim 1 to a PWM switch and claim 29 to a regulation circuit. These essentially identical claims differed in that claim 1 required an oscillator element capable of generating a maximum duty cycle signal while this element was omitted from original claim 29. *Compare* Exh. C, '851 Pros. History, FCS0000370 (claim 1) and FCS0000370-71 (claim 29).³

The Examiner considered the pending claims and rejected only claim 29 (and claims that depended from it) as invalid in light of the prior art in Figure 1 of the '851 Patent:

Claim Rejections – 35 U.S.C. § 102

5. Claims 29, 35 & 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicants' Prior Art Fig. 1.

Applicants' Prior Art Fig. 1 shows a first terminal 95, a second terminal Com, a switch/drive circuit 90 and a frequency variation circuit 140 as recited in claim 29.

Further shown in a rectifier 10, a capacitor 15, a first winding 35 and a second winding 45 as recited in claim 35.

³ Initially, the drive circuit of claim 29 differed slightly from the drive circuit of claim 1. Power Integrations later amended the drive circuit of claim 29 to reduce this difference. Exh. C, '851 Pros. History, FCS0000447.

Further shown is a feedback terminal (Error Amplifier In) are recited in claim 37. Exh. C, FCS0000439. At the same time, the Examiner allowed claim 1 believing that the prior art did not disclose the oscillator with maximum duty cycle signal required by that claim:

Allowable Subject Matter

8. The prior Art of record does not appear to disclose or suggest a PWM switch comprising *an oscillator for generating a maximum duty cycle signal* and a signal [sic] with a frequency range dependant on a frequency variation circuit as recited in claim 1.

Id., FCS0000440. (Emphasis added).

Thus, the Examiner made clear that the claimed "frequency variation circuit" and "frequency variation signal" were in Prior Art Figure 1 and the only reason claims were allowed was the inclusion of the oscillator with a maximum duty cycle signal.⁴ Claims that incorporated that oscillator (claim 1 and the claims that depend from claim 1) were allowed while claims that omitted that oscillator (claim 29 and the claims that depended from claim 29) were rejected.

G. **To Overcome The Examiner's Rejection, Power Integrations Amended Its Claims To Copy the Oscillator With Maximum Duty Cycle Signal Limitation And Stated That The Prior Art Did Not Disclose Such An Oscillator.**

Power Integrations embraced the Examiner's determination that Prior Art Figure 1 lacked an "oscillator for generating a maximum duty cycle signal." Power Integrations thanked the Examiner for allowing claim 1 (and its dependant claims) (Exh. C, '851 Pros. History, FCS0000448) and amended claim 29 to include the exact same oscillator generating a maximum duty cycle signal as in claim 1. *Id.*, FCS0000446-447. Power Integrations then made the following affirmative representation that claim 29 (which issued as asserted claim 11) should be allowed because (according to Power Integrations) the prior art did not teach such an oscillator:

35 U.S.C. § 102 Rejections

In the December 13, 1999 Office Action, claims 29, 35 and 37 are rejected under 35 U.S.C. § 102(b) as being anticipated by Applicants' Prior Art Figure 1.

Claim 29 as presently amended now expressly recites a regulation circuit that includes *an oscillator that provides a maximum duty cycle signal* and an oscillation signal having a frequency range that is varied according to a frequency

⁴ While admitting that the Examiner determined that the claimed "frequency variation circuit" was shown in Prior Art Figure 1, Power Integrations appears to dispute that this figure contains a frequency variation signal. Power Integrations' argument is specious. Since the claimed "frequency variation circuit" is defined as a "circuit that provides a frequency variation signal," by determining that Prior Art Figure 1 includes a "frequency variation circuit" (140) the Examiner necessarily recognized that it also included a frequency variation signal (135).

variation signal. *The Applicants' Prior Art Figure 1 fails to disclose, teach or suggest such limitations.* Accordingly, the Applicants respectfully submit that the instant section 102 rejection has been overcome.

Id., FCS0000449 (emphasis added). Power Integrations never provided any other reason to overcome the prior art or the Examiner's rejection. *Id.* Accepting Power Integrations' representation, the Examiner allowed the claims of the '851 Patent. *Id.* FCS0000460-61. Clearly, Power Integrations argued that the Examiner's prior art lacked all "limitations".

H. **A Simple Review of the Power Integrations' SMP211 Datasheets Shows an Oscillator That Generates a Maximum Duty Cycle Signal.**

The SMP211 was a pulse width modulated switch sold by Power Integrations more than two years before the filing date of the Patents. As part of selling the SMP211, Power Integrations actively distributed datasheets to its customers.

The SMP211 datasheet plainly reveals that its internal oscillator generates a maximum duty cycle (or "D_{MAX}") signal:

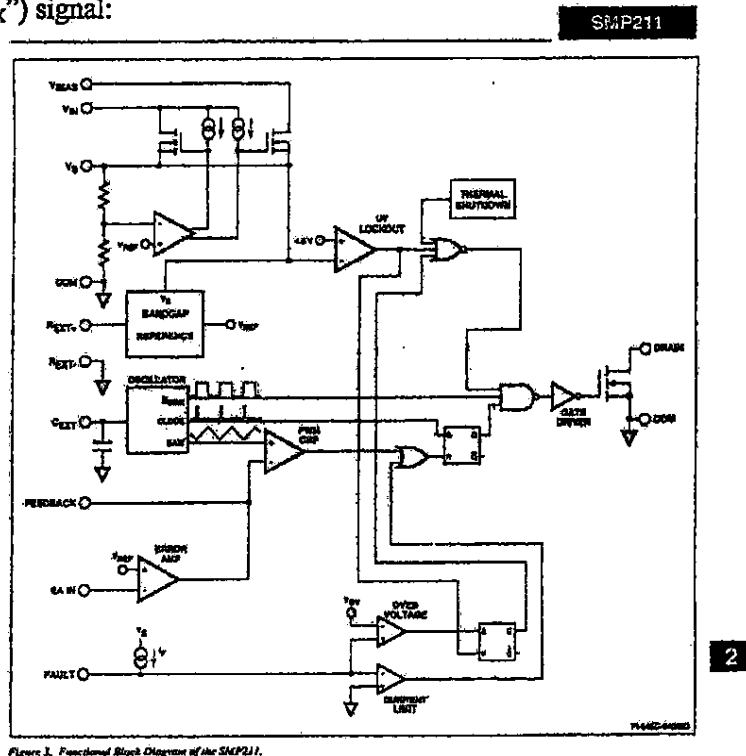


Figure 3. Functional Block Diagram of the SMP211.

Figure 3 – Functional Block Diagram of the SMP211
Exh. I, SMP211 Datasheet, FCS1685479

The SMP211 datasheet also provides a straight forward description of the D_{MAX} signal. "The

D_{MAX} signal from the oscillator limits the maximum duty cycle by gating the output driver.”

Exh. I, SMP211 datasheet, FCS1685481. Thus, no genuine issue exists that the SMP211 clearly contained an oscillator for generating a maximum duty cycle signal or that this information was readily available to all but the Patent Office.

Power Integrations’ inventors did not “forget” their own prior art or inadvertently fail to provide it. Indeed, the SMP211 – a Power Integrations prior art device developed by Balu Balakrishnan, the lead inventor of the ‘851 and ‘366 Patents – is obliquely acknowledged as material prior art. Power Integrations, however, withheld all information about its SMP211 and buried the single, passing reference to the device. Specifically, in Figure 1 of the ‘851 Patent, Power Integrations chose to depict pulse width modulated switch 90 as a “black box” and withheld from the Examiner details of its operation. In the bottom right corner of that box, however, Power Integrations identified pulse width modulated switch 90 as the “SMP211”. Therefore, rather than have “forgotten” about the SMP211, Power Integrations’ inventors clearly appreciated its significance and decided to withhold it from the Examiner.

Power Integrations admits that the SMP211 is prior art to the ‘851 and ‘366 Patents. Exh. E, PI’s Response to RFA No. 46. Further, Power Integrations admits that its SMP211 “includes an oscillator for generating a maximum duty cycle signal.” *Id.*, PI’s Response to RFA No. 47. PI’s Response to RFA No. 47. Despite this, Power Integrations neither provided the Examiner with information about its SMP211 devices nor ever informed the Examiner that the SMP211 was a Power Integrations device. Power Integrations did not provide the Examiner with a copy of the SMP211 datasheet, did not describe the prior art SMP211 in the specification of the ‘851 or ‘366 Patent, and did not even mention the SMP211 during the prosecution of either patent. In fact, the *only* reference to the SMP211 anywhere in the figures, specification, or prosecution history of either the ‘851 or ‘366 Patent is the small print buried in Figure 1.

I. **A Comparison Of The SMP211 Datasheet with the “Preferred Embodiment” Of The Patents Confirms That The SMP211 Is Highly Material**

Power Integrations described its invention with reference to Figure 3 of both Patents, which is described as “a presently preferred pulse width modulated switch according to the present invention.” ‘851 Patent, 4:43-44.

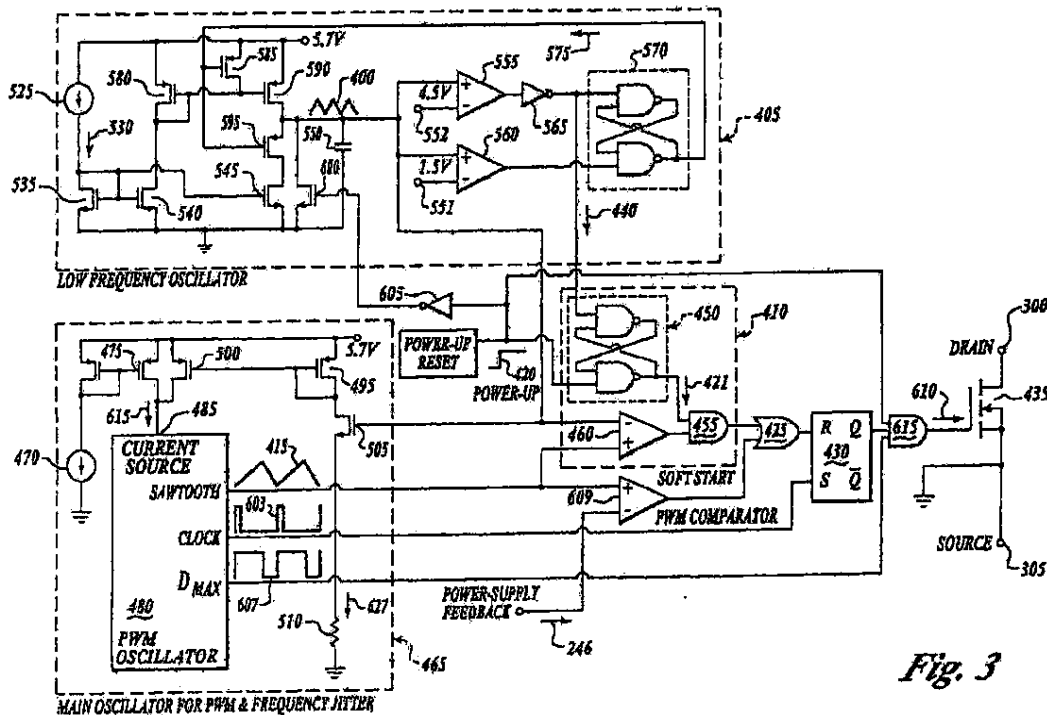


Fig. 3

Strikingly, the “Main Oscillator for PWM and Frequency Jitter” (465) shown in Figure 3 below is virtual identical to the SMP211 oscillator (shown in Figure 3 of that datasheet).⁵ Both depict oscillators that generate a sawtooth oscillation signal, a clock pulse, *and an identical maximum duty cycle signal labeled “D_{MAX}” connected to the drive circuit as recited in the claims of the Patents.* Compare ‘851 Patent, Fig. 3 with Exh. I, SMP211 Datasheet Figure 3, FCS1685479.

⁵ The oscillator shown in the withheld SMP211 datasheet is also virtually identical to that shown in Figures 6 and 9 of the ‘851 and ‘366 Patents, which are described as alternate embodiments of the alleged invention. ‘851 Patent, 3:43-61.

J. **Power Integrations Withheld Other Material Prior Art Devices From The Examiner.**

Power Integrations' failure to provide the Examiner with material prior art was not limited to the SMP211.

REDACTED

It was inequitable conduct for Power Integrations to withhold these reference as well.

For instance, Power Integrations' 1991 SMP3 datasheet clearly shows an oscillator that generates a maximum duty cycle (or "D_{MAX}") signal. Exh. H, SMP3 datasheet Fig. 3, FCS1688150. Power Integrations failed to disclose any information – or even the existence – of this prior art device during the prosecution of the '851 and '366 Patents.

K. **Power Integrations' Withholding of its SMP240 and SMP260 Devices Was Particularly Wrongful.**

While Power Integrations' decision to withhold its voluminous prior art showing an oscillator that generates a maximum duty cycle signal was wrongful, Power Integrations decision to withhold all details of – indeed, any mention of – its SMP240 and SMP260 devices was particularly egregious. Leif Lund, one of the inventors of the '851 and '366 Patents, designed the SMP240 and SMP260 devices in the early 1990's. Exh. F, Lund Depo., 22:25-23:12. During his deposition, Mr. Lund admitted that the prior art SMP240 and SMP260 devices each contained every element of claim 1 of the '366 Patent.⁶

'366 Patent, Claim 1	Power Integrations' Prior Art SMP240 and SMP260 Devices
A pulse width modulated switch comprising:	REDACTED
a first terminal; a second terminal;	

⁶ As set forth fully in Appendix III, Power Integrations' SMP240 and SMP260 devices also anticipate other claims of the '366 Patent.

'366 Patent, Claim 1	Power Integrations' Prior Art SMP240 and SMP260 Devices
a switch comprising a control input, the switch allowing a signal to be transmitted between said first terminal and said second terminal according to a drive signal provided at said control input;	REDACTED
an oscillator that provides a maximum duty cycle signal comprising an on-state and an off-state;	
a drive circuit that provides said drive signal according to said maximum duty cycle signal; and.	
a soft start circuit that provides a signal instructing said drive circuit to disable said drive signal during at least a portion of said on-state of said maximum duty cycle.	

Despite his obligation to provide the Patent Office with prior art, Mr. Lund testified that

REDACTED

Since claim 1 of the '366 Patent was originally filed as part of the '851 Patent application

⁷ For brevity, objections have been omitted from this table but are fully set forth in Appendix III.

(see, Exh. C, '851 Pros. History, FCS0000372-377), Power Integrations' failure to disclose its SMP240 and SMP260 devices constitutes inequitable conduct with respect to both Patents.

III. ANALYSIS.

A. The '851 And '366 Patents Are Unenforceable Due To Power Integrations' Inequitable Conduct.

1. Summary Judgment of Inequitable Conduct Is Appropriate.

Summary judgment is as appropriate in a patent case as in any other case. See, e.g., *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1116 (Fed. Cir. 1985). Summary judgment is proper when "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c); see also *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). A "genuine" issue of material fact exists only when there is sufficient evidence such that a reasonable juror could find for the party opposing the motion. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52 (1986).

"Inequitable conduct occurs when a patentee breaches his or her duty to the PTO of 'candor, good faith, and honesty.'" *Warner-Lambert Co. v. Teva Pharms. USA, Inc.*, 418 F.3d 1326, 1342 (Fed. Cir. 2005). A patent is unenforceable for inequitable conduct if an alleged infringer can show, by clear and convincing evidence, that an applicant submitted materially false information or failed to disclose material information to the PTO during prosecution, with an intent to deceive. *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 (Fed. Cir. 1995). Inequitable conduct is an appropriate topic for summary judgment. *Ferring B.V. v. Barr Labs., Inc.*, 2006 U.S. App. LEXIS 3554 at *2, 05-1284, (Fed. Cir. Feb. 15, 2006); *Paragon Podiatry Labs., Inc. v. KLM Labs., Inc.*, 984 F.2d 1182, 1188-93 (Fed. Cir. 1993) (affirming summary judgment finding inequitable conduct).

"While inequitable conduct includes affirmative misrepresentations of material facts, it also arises when the patentee fails to disclose material information to the PTO." *Ferring*, 2006 U.S. App. LEXIS 3554 at *12. Power Integrations committed both types of inequitable conduct.

First, it failed to disclose material information about its SMP3, SMP211, SMP240 and SMP260 prior art devices. Then, Power Integrations compounded its misconduct by affirmatively stating that the prior art “fails to disclose, teach or suggest” an oscillator with a maximum duty cycle signal, even though it admits that its withheld SMP211 device has such an oscillator. See Exh. C, ‘851 Pros. History, FCS0000449 and Exh. E, PI’s Response to RFA No. 47. Third, the written text of the patents constitutes an affirmative misrepresentation of the SMP211 in suggesting that its oscillator only generates a oscillation signal and failing to explain that it also generates a maximum duty cycle signal.

To determine whether a patentee committed inequitable conduct, a court balances the levels of materiality and intent to determine whether the equities warrant a conclusion that inequitable conduct occurred, “with a greater showing of one factor allowing a lesser showing of the other.” *Digital Control Inc., v. Charles Machine Works*, 2006 U.S. App. LEXIS 2991 at *8, 05-1128 (Fed. Cir. Feb. 8, 2006); *Molins PLC*, 48 F.3d at 1178. Where a court has found high materiality, “the showing of intent can be proportionally less.” *Novo Nordisk Pharm., Inc., v. Bio-Technology Gen. Corp.*, 424 F.3d 1347, 1359 (Fed. Cir. Oct. 5, 2005).

2. **Power Integrations’ affirmative misrepresentations and withheld prior art was highly material to the ‘851 Patent.**

A misstatement or omission is material where “a reasonable examiner would have considered such prior art important in deciding whether to allow the application.” *Digital Control, Inc.*, 2006 U.S. App. LEXIS 2991 at *10 and *18; *see also* 37 C.F.R. 1.56(b). Typically, the materiality of a reference is, to a degree, speculative and open to dispute. Here, however, we have the unusual situation where (i) the prosecution history specifies precisely what the Examiner relied directly upon Power Integrations’ misrepresentation of the prior art, (ii) Power Integrations now admits that the missing element relied upon by the Examiner was, in fact, present in its own, withheld SMP211 prior art devices, but, (iii) rather than disclose the SMP211 to the Examiner Power Integrations, instead, falsely stated that the prior art “fails to disclose, teach or suggest such limitations.”

During the prosecution of the '851 Patent, the Examiner rejected all of the pending claims that did not require an oscillator that generated a maximum duty cycle signal. Exh. C, '851 Pros. History, FCS0000439. At the same time, the Examiner allowed those claims that required such an oscillator. *Id.*, '851 Pros. History, FCS0000440. The Examiner unambiguously explained his direct reliance upon what he believed was not disclosed in the prior art:

Allowable Subject Matter

8. The prior Art of record does not appear to disclose or suggest a PWM switch comprising an oscillator for generating a maximum duty cycle signal and a singnal [sic] with a frequency range dependant on a frequency variation circuit as recited in claim 1.

Id., FCS0000440. At a minimum, this clear reliance established that "an oscillator for generating a maximum duty cycle signal" was at least part of what was believed missing from the prior art. Indeed, in the specification of the '851 Patent, Power Integrations admitted that the prior art included an oscillator that generated a signal with a frequency range dependant on a frequency variation circuit. '851 Patent, 3:10-17 ("Additionally, pulse width modulated switch 90 is equipped with frequency variation terminals 125 and 130. Frequency oscillation terminal 125 and 130 receive a jitter current 135 that varies according to the ripple component of substantially DC voltage 25. The jitter current 135 is used to vary the frequency of the saw-toothed waveform generated by the oscillator contained in the pulse width modulated switch 90."). Thus, the only potentially novel element was the addition of an oscillator that generates a maximum duty cycle signal, making this limitation all the more material.

In response to Fairchild's Request for Admission, Power Integrations admitted that its SMP211 device (disclosed in Prior Art Figure 1) "includes an oscillator for generating a maximum duty cycle signal." Exh. E, PI's Response to RFA No. 47. Moreover, Power Integrations admitted that its SMP211 was described in a printed publication more than a year before the application leading to the '851 Patent was filed. *Id.*, PI's Response to RFA No. 46. Thus, there can be no dispute that Power Integrations SMP211 was (i) prior art and (ii) contained the precise element that the Examiner determined was missing from the prior art submitted by

Power Integrations.⁸ See 35 U.S.C. § 102(b). Indeed, as set forth below and as illustrated in the charts attached as Appendices I and II, the SMP211 – in conjunction with Prior Art Figure 1 – anticipates most of the asserted claims of the ‘851 Patent. Thus, the SMP211 prior art and Power Integrations’ failure to disclose it “satisfies the most stringent standard of materiality.” *Fox Indus., Inc. v. Structural Preservation Systems, Inc.*, 922 F.2d 801, 804 (Fed. Cir. 1990).

Rather than provide the Examiner with information about the SMP211, Power Integrations deliberately misinformed the Examiner about the prior art. To convince the Examiner to allow the claim 29 and other claims of the ‘851 Patent, Power Integrations affirmatively stated that “the Applicants’ Prior Art Figure 1 *fails to disclose, teach or suggest such limitations*” as an “oscillator further providing a maximum duty cycle signal....” Exh. C, ‘851 Pros. History, FCS0000449 (emphasis added). Such affirmative misrepresentations are even “more likely to be regarded as material” than a simple failure to disclose prior art. *Digital Control*, 2006 U.S. App. LEXIS 2991 at *23. Only after Power Integrations made this misstatement – and amended its claims to include an oscillator with a maximum duty cycle signal – did the Examiner issue a “Notice of Allowability” for the ‘851 Patent. See Exh. C, ‘851 Pros. History, FCS0000460.

Likewise, Power Integrations failed to disclose information about its SMP3, SMP240 and SMP260 devices during the examination of either the ‘851 or ‘366 Patents. Like the SMP211, Power Integrations’ SMP3 datasheets clearly show that these prior art devices incorporate an oscillator that generates a maximum duty cycle signal. Exh. H, SMP3 datasheet Fig. 3, FCS1688150. As set forth above, Mr. Lund – the designer of the withheld Power Integrations devices and an inventor of both the ‘851 and ‘366 Patents – admits that both the prior art SMP240 and the prior art SMP260 anticipates claims of the ‘366 Patent as well as claims filed with the ‘851 Patent application. Power Integrations’ withholding of the SMP3, SMP240 and SMP260 provides two independent bases to render unenforceable the ‘851 and ‘366 Patents.

⁸ As set forth in Federal Rule of Civil Procedure 36(b), “any matter admitted under this rule is conclusively established unless the court on motion to strike permits withdrawal or amendment of the admission.”

“Given the ex parte nature of proceedings before the PTO, it is especially important that the examiner has all of the information needed....” *Ferring*, 2006 U.S. App. LEXIS 3554 at *14-15. Power Integrations improperly withheld its prior art SMP3, SMP211, SMP240 and SMP260 from the Examiner and then compounded this misconduct by misrepresenting the state of the prior art. Power Integrations’ misconduct is highly material.

3. **Power Integrations intentionally withheld information about the SMP211, SMP240, and SMP260 from the Examiner during prosecution of the ‘851 and ‘366 Patents.**

Once the Court determines that Power Integrations’ affirmative misrepresentations of Prior Art Figure 1 – coupled with its failure to disclose information about its prior art SMP3, SMP211, SMP240 and SMP260 devices – are material, the issue turns to whether this misconduct was intentional.

“The more material the omission, the less evidence of intent will be required in order to find that inequitable conduct has occurred.” *Baxter Int’l, Inc. v. McGaw, Inc.*, 149 F.3d 1321, 1327 (Fed. Cir. 1998). Since Power Integrations’ misconduct is of the highest materiality – the withheld SMP3, SMP211, SMP240, and SMP260 devices not only anticipate claims of the ‘851 and ‘366 Patents but directly contradicting Power Integrations’ affirmative misrepresentations about the state of the prior art – a correspondingly low level of intentionality is required. “A patentee facing a high level of materiality and clear proof that it knew or should have known of that materiality, can expect to find it difficult to establish ‘subjective good faith’ sufficient to prevent the drawing of an inference of intent to mislead.” *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1257 (Fed. Cir. 1997).

“Intent need not, and rarely can, be proven by direct evidence. *Merk & Co., Inc. v. Danbury Pharmacal, Inc.*, 873 F.2d 1418, 1422 (Fed. Cir. 1989). Thus, even on summary judgment, the Court will consider circumstantial evidence of intent:

Suffice it to say that we have recognized in cases such as *Paragon*, that summary judgment is appropriate on the issue of intent if there has been a failure to supply highly material information and if the summary judgment record establishes that (1) the applicant knew of the information; (2) the applicant knew or should have known of the materiality of the information; and (3) the applicant has not provided a credible explanation for the withholding.

Ferring, 2006 U.S. App. LEXIS 3554 at *28. Since there can be no genuine dispute that all three elements are met, summary judgment of unenforceability is appropriate.

- a. The applicants were undeniably aware of the SMP3, SMP211, SMP240, and SMP260 prior to the prosecution of the '851 and '366 Patents.

Power Integrations' inventors were aware of Power Integrations' prior art SMP3, SMP211, SMP240, and SMP260 devices device before the prosecution of the '851 Patent. At the time, Power Integrations was a small company with few products and few engineers. All three of the inventors were employed by Power Integrations and would have been well aware of Power Integrations' prior art products, including the SMP211, SMP240, and SMP260 devices.

More than simply "aware" of Power Integrations' prior art SMP3, SMP211, SMP240, and SMP260, the applicants for the '851 and '266 Patents actually designed and developed the withheld prior art.

REDACTED

- b. The applicants knew or should have known that the SMP3, SMP211, SMP240, and SMP260 were material to the patentability of the '851 and '366 Patents.

Power Integrations' inventors and attorneys knew or, at a minimum, should have known of the materiality of the withheld SMP211. As set forth below, the SMP211 – in conjunction with the prior art shown in Figure 1 of the '851 and '366 Patents – anticipates invalidates many of the asserted claims. When they submitted their application, the applicants all recognized the importance of providing the Patent Office with material prior art and agreed, under penalty of perjury, to do so. Exh. C, '851 Pros. History, FCS0000390-391. Thus, at the time they filed their original applications, the applicants knew – or should have known – of the materiality of the SMP211 and were obligated to provide the Examiner with that information.

Had the applicants had a shred of doubt over the materiality of the SMP211, that doubt was conclusively dispelled when the Examiner specifically stated the only reason he allowed any of the claims of the '851 Patent was because the prior art submitted by Power Integrations did not disclose an oscillator with a maximum duty cycle signal. Exh. C, '851 Pros. History, FCS0000440. At that point there could be no possible dispute that prior art – such as Power Integrations' SMP3, SMP211, SMP240 and SMP260 devices – that taught a PWM device with an oscillator that generated a maximum duty cycle signal was material. Rather than disclose this prior art, the applicants affirmatively misled the Examiner by reaffirming that "Prior Art Figure 1 fails to disclose, teach or suggest such limitations". Exh. C, '851 Pros. History, FCS0000449.

Likewise, there can be no genuine dispute that the applicants – and, in particular, Mr. Lund – were aware of the materiality of the SMP240 and SMP260 devices. As Mr. Lund testified,

REDACTED

Exh. F, Lund Depo., 19:5-11 and 29:23-30:1. The original claims of the '851 Patent and the issued claims of the '366 Patent were directed to precisely such devices. See Exh. C, '851 Pros. History, FCS0000372-377 (claims 11-28); Exh. B. Since the SMP240 and SMP260 devices were the only devices designed by Mr. Lund that incorporated a soft start circuit and since Mr. Lund testified that that soft start circuit was very different from the soft start circuit disclosed as prior art, Mr. Lund must have known – or, at the very least – should have known of the materiality of the SMP240 and SMP260 devices. Indeed, Mr. Lund testified that,

REDACTED

Exh. F, Lund Depo., 75:17-22.

Power Integrations may argue that it did not *intentionally* withhold material prior art since, while its inventors' knew of the SMP3, SMP211, SMP240 and SMP260, they did not appreciate their materiality. At the same time, Power Integrations may argue that while its attorneys clearly understood the potential materiality of references like the SMP3, SMP211, SMP240 and SMP260, they were unaware of the specific Power Integrations prior art devices that included these elements. This argument, however, fails as a matter of law.

The Federal Circuit has been clear, knowledge of the inventors is imputed to the attorneys and knowledge of the attorneys is imputed to the inventors. “‘Applicant’ as used here includes the patentee and the attorney who prosecuted the application that resulted in the patent-in-suit, because the knowledge and actions of applicant’s attorney are chargeable to the applicant.” *FMC Corp. v. Manitowoc Co.*, 835 F.2d 1411, 1415 n. 8 (Fed. Cir. 1987). Thus, one looks at the total information available to both the attorneys and the inventors. Since the attorneys were indisputably aware of the statements made to the Patent Office and since the inventors were indisputably aware of prior art that renders those statements false, Power Integrations committed inequitable conduct.

Indeed, the Federal Circuit specifically rejected the argument that inequitable conduct can be avoided by segregating the knowledge of the inventors and their attorneys:

Thus, Brasseler asks this court to find, on one hand, that the inventors’ failure to disclose the sale to its representatives absolves the inventors of their duty to disclose the sale to the PTO because they could not have known – absent their attorneys’ assistance – that the sale was material. On the other hand, Brasseler maintains that its counsels’ failure to investigate the facts surrounding the potential bar is excused on the basis that the inventors failed to fully inform them of the details of the sale. *We refuse to pursue the circular logic of Brasseler’s request and decline to carve out an exception to the inequitable conduct law to shield those guilty of inequitable conduct from responsibility for their actions.*

Brasseler, U.S.A. v. Stryker Sales Corp., 267 F.3d 1370, 1380 (Fed. Cir. 2001) (emph. added).

As the Federal Circuit has explained, the issue is whether the applicants (the inventors, together with their attorneys) collectively knew “or should have known” of the materiality of the affirmative misstatements and withheld references. *Critikon*, 120 F.3d at 1257. A finding of intentionality is particularly appropriate when the applicants made misleading representations about their own prior art, failed to disclose their own products, and denied the Examiner the opportunity to discover these misstatements by withholding the underlying references:

The inference [of intent to mislead] arises not simply from the materiality of the affidavits, but from the affirmative acts of submitting them, their misleading character, and the inability of the examiner to investigate the facts.

Paragon Podiatry, 984 F.2d at 1191. Since there can be no genuine dispute of material fact that this is so, Fairchild is entitled to summary judgment of inequitable conduct.

c. The applicants have no credible explanation for withhold the SMP211, SMP240 and SMP260 devices.

Since the applicants undisputedly (i) knew of the SMP3, SMP211, SMP240 and SMP260 and (ii) knew or should have known of the materiality of these devices, the burden shifts to Power Integrations to provide a credible explanation of why withheld. “In the absence of a credible explanation, intent to deceive *is generally inferred* from the facts and circumstances surrounding a knowing failure to disclose material information.” *Ferring*, 2006 U.S. App. LEXIS 3554 at *26-27 (emphasis in original).

Power Integrations has not met – and cannot meet – this burden. Instead of providing any evidence justifying withholding these references, Power Integrations applicants speculate that “they forgot.” Even were this true – and all of the evidence suggests that it is not – it is not sufficient to avoid summary judgment of inequitable conduct. “The appellants cannot raise a genuine issue of material fact by speculating as to what evidence might have been introduced at trial.” *Ferring*, 2006 U.S. App. LEXIS 3554 at *26.

Power Integrations’ conclusory argument that the applicants “forgot” at least four separate pieces of highly material prior art that they had previously designed is as insufficient as it is unbelievable. “Conclusory allegations and attorney arguments are insufficient to overcome a motion for summary judgment.” *Ferring*, 2006 U.S. App. LEXIS 3554 at *33. Indeed, the Federal Circuit has long since held that “insupportable, [or] specious... explanations or excuses will not suffice to raise a *genuine* issue of fact.” *Paragon Podiatry*, 984 F.2d at 1190.

Moreover, there is no evidence to support the amazing coincidence that not one but all three inventors and their attorneys “forgot” about not just Power Integrations’ prior art SMP211 but also Power Integrations’ SMP3, SMP240, and SMP260 devices, as well. Instead, all of the evidence shows that Power Integrations’ applicants were well aware of the SMP devices at the time the application for the ‘851 Patent was filed.

Significantly, the inventors identified the SMP211 (albeit a bare reference that withheld the material details) in Figure 1 of the '851 and '366 Patents. Exhs. A and B. Had the applicants truly "forgotten" the SMP211, they would have made no reference to it at all. Instead, they concealed its materiality by making the absolute minimum acknowledgement of its existence and then obtain allowance of claims that directly recited the withheld details.

At the time, Power Integrations was a small company with a handful of engineers and even fewer products,

REDACTED

(Exh. F, Lund Depo, 66:17-67:6), at the time the SMP3, SMP211, SMP240, and SMP260 was a big deal to Power Integrations and the development of these devices consumed significant resources in both time and money. This is not the sort of work that one would simply "forget", especially if the inventors were wracking their brains for relevant prior art as was required.

Finally, even were Power Integrations to produce admissible evidence that all of the inventors and all of the attorneys involved in the prosecution of either the '851 and '366 Patents forgot not only the SMP211 but also the SMP3, SMP240, and SMP260, Fairchild would still be entitled to summary judgment. The issue is not whether the applicants "remembered" a specific prior art device but, rather, whether they knew or should have known of a PWM device that incorporated an oscillator that generated a maximum duty cycle signal. Obviously, if they recalled any of their own work developing Power Integrations' SMP211, SMP240 or SMP260 devices, they were necessarily aware of prior art that met this limitation. Even if they did not recall these specific devices, however, the applicants and their attorneys were obligated to disclose to the Examiner the undisputed fact that an oscillator that generated a maximum duty cycle signal was well known in the prior art:

Even if Dr. Yamazaki's testimony that he forgot about the specific passages contained in the '423 and the '488 applications describing their relevance to TFT's were plausible, *it is not plausible that he forgot the scientific principle underlying those passages*, i.e., that the importance of reducing impurity levels is germane to both solar cells and TFT's.

Semiconductor Energy Lab. Co. v. Samsung Elecs. Co., 4 F. Supp. 2d 477, 491 (D. Va. 1998) (emphasis added). There is no dispute that at the time the '851 and '366 Patents were being

prosecuted, the inventors were well aware of prior art PWM devices with oscillators that generated a maximum duty cycle signal. Exh. L, Balakrishnan Depo. (Rough), 162:14-20 and 164:21-166:16. Power Integrations was obligated to disclose this to the Patent Office.

Power Integrations' decision to intentionally withhold material prior art from the Examiner constitutes inequitable conduct and renders the '851 and '366 Patents unenforceable.

B. Asserted Claims Of The '851 Patent Are Invalid In Light Of The SMP211 And The Admitted Prior Art.

In addition to finding the '851 Patent unenforceable, the Court should invalidate asserted claims 1, 2, 7, 9-11, 16, and 17 in light of the admitted prior art – Figure 1 of the '851 Patent and the SMP211 datasheet. 35 U.S.C. § 102.

1. Claims 1, 10 and 11 of the '851 Patent are anticipated by Figure 1 and the SMP211.

There are only two independent claims in the '851 Patent and Power Integrations has asserted both of them. Claims 1 and 11 are extremely similar. The only differences are in the preamble (claim 1 refers to a “pulse width modulated switch” while claim 11 refers to a “regulation circuit”), slightly different wording with respect to the drive circuit, and the inclusion of a feedback terminal in claim 11.⁹ None of these minor differences have any bearing on the invalidity of the claims. As shown in Appendix I, claims 1, 10 and 11 are anticipated by the admitted prior art, including the SMP211 withheld from the Examiner.

During claim construction, Power Integrations argued that the “frequency variation signal” element must be construed in such a way as to avoid the admitted prior art and prosecution history of the '851 Patent. Specifically, Power Integrations argued that it must be (i) internal, (ii) cyclic, and (iii) cause the oscillation signal to vary within a predetermined range. D.I. 152, p. 23. The Court must reject this proposed construction precisely because it would exclude the admitted prior art. It is clear from the prosecution history that the claimed frequency variation circuit (140) and the frequency variation signal (135) it generates are shown in Prior Art Figure 1. Exh. C, '851 Pros. History, FCS000439.

⁹ Claim 10, which depends from claim 1, adds the feedback element.

Thus, the only element that the Examiner believed missing from the admitted prior art – the sole reason for the Examiner’s allowance of claims 1, 10 and 11 – was “an oscillator for generating a maximum duty cycle signal.” Exh. C, ‘851 Pros. History, *Id.*, FCS0000440. This element was, in fact, contained within the SMP211 reference in Prior Art Figure 1.

Power Integrations now unambiguously admits that its prior art SMP211 device includes an oscillator that generates a maximum duty cycle signal. See Exh. E, PI’s Response to RFA No. 47. Moreover, the ‘851 Patent, itself, specifies that the prior art oscillator also generate an oscillation signal, the frequency of which varies based on the frequency variation signal generated by the frequency variation circuit:

Additionally, pulse width modulated switch 90 is equipped with frequency variation terminals 125 and 130. Frequency oscillation terminal 125 and 130 receive a jitter current 135 that varies according to the ripple component of substantially DC voltage 25. *The jitter current 135 is used to vary the frequency of the saw-toothed waveform generated by the oscillator contained in the pulse width modulated switch 90.*

‘851 Patent, 3:10-17 (emphasis added). Thus, the oscillator in the SMP211 clearly anticipates the oscillator element in claims 1 and 11 of the ‘851 Patent.

Since the admitted Prior Art Figure 1 of the ‘851 Patent and Power Integrations’ own SMP211 PWM device (which was withheld from the Examiner) teach every element of claims 1, 10 and 11 of the ‘851 Patent, those claims are invalid. 35 U.S.C. § 102.

2. **Claims 9 and 17 of the ‘851 Patent are anticipated by Figure 1 and the SMP211.**

Dependant claims 9 and 17 both require the same external circuit elements. There is no dispute that these elements are taught in the prior art. Indeed, the Examiner specifically noted during the prosecution of the ‘851 Patent that all of the elements required by claims 9 and 17 are found in the admitted prior art shown in Figure 1 of the ‘851 Patent:

Further shown [in Applicants’ Prior Art Fig. 1] is a rectifier 10, a capacitor 15, a first winding 35 and a second winding 45 as recited in claim 35 [which issued as claim 17].

Exh. C, ‘851 Pros. History, FCS0000439. Attached as Appendix I is a chart setting forth how claims 9 and 17 are anticipated by both Figure 1 of the ‘851 Patent and the SMP211 datasheet.

Claims 9 and 17 only issued because they depend from claims 1 and 11, which require the allegedly novel oscillator with a maximum duty cycle signal. Since, claims 1 and 11 are anticipated by the admitted prior art, claims 9 and 17 are likewise invalid.

3. **Claim 7 of the '851 Patent is anticipated by Figure 1 and the SMP211.**

Claim 7 adds to claim 1 the limitation that the frequency of the oscillation signal generated by the oscillator varies with the magnitude of the frequency variation signal. Exh. A, '851 Patent, claim 7. Figure 1 – the admitted prior art – shows frequency variation signal (135) generated by frequency variation signal (140). As set forth above, the specification of the '851 makes clear that the frequency of the oscillation signal varies depending on the magnitude of frequency variation signal (135). '851 Patent, 3:10-17 ("Frequency oscillation terminal 125 and 130 receive a jitter current 135 that varies according to the ripple component of substantially DC voltage 25. The jitter current 135 is used to vary the frequency of the saw-toothed waveform generated by the oscillator contained in the pulse width modulated switch 90.") Thus, as shown in Appendix I, claim 7 is anticipated by the admitted prior art and the SMP211.

4. **Claims 2 and 16 of the '851 Patent are obvious in light of Figure 1 and the SMP211.**

Claims 2 and 16 are essentially identical – both require that elements of their respective independent claims be "monolithic". Attached as Appendix 1 is a chart setting forth how claims 2 and 16 are rendered obvious by Figure 1 of the '851 Patent.

As the Examiner noted during prosecution of the '851 Patent, this limitation is obvious:

Claim 34 [which issued as claim 16] is rejected under 35 U.S.C 103(a) as being unpatentable over Applicants' Prior Art Fig. 1.

Applicants Prior Art Fig. 1 does not specify that the circuit is an integrated circuit as recited in claim 34 [which issued as claim 16]. However, *it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Prior Art Fig. 1 as an integrated circuit [sic] for the benefit [sic] of implementing a compact single package. Claim 34 [which issued as claim 16] is obvious.*

Exh. C, '851 Pros. History, FCS0000440 (emphasis added). Rather than dispute the Examiner's observation, Power Integrations simply argued that claim 34 (which issued as asserted claim 16) was valid because Power Integrations had added the allegedly "novel" oscillator element to

claim 29 (from which claim 34 depended). *Id.*, '851 Pros. History, FCS0000441.

Since claims 1 and 11 (from which claims 2 and 16 depend) are anticipated by the admitted prior art, claims 2 and 16 are likewise invalid.

C. Asserted Claims Of The '366 Patent Are Invalid In Light Of The SMP211 And The Admitted Prior Art And/Or The SMP240 And SMP260 Devices.

The claims of the '366 Patent are similar to the asserted claims of the '851 Patent but require "a soft start circuit" in lieu of a frequency variation circuit. As with the '851 Patent, asserted claims of the '366 Patent are invalid in light of the admitted Prior Art Figure 1 of the '366 Patent with the additional understanding of the details of the SMP211. Further, many of the same claims are also anticipated by Power Integrations' SMP240 and SMP260 prior art devices.

1. Claims 1 and 9, and 10 of the '366 Patent are anticipated by Figure 1 and the SMP211.

Claims 1 and 9 – the only independent claims of the '366 Patent – are very similar to claims 1 and 11 of the '851 Patent. Essentially, the only difference is that the claims of the '366 Patent require a "soft start circuit" instead of a "frequency variation circuit."¹⁰ As set forth in Appendix II, the admitted prior art shown in Figure 1 of the '366 Patent and the SMP211 datasheet teach every element of claims 1, 9, and 10 of the '366 Patent.

As discussed with respect to the '851 Patent, the Examiner specifically held that most of the elements of claims 1, 9, and 10 of the '366 Patent are shown in the admitted prior art of Figure 1. Specifically, the Examiner noted that the admitted prior art included a first terminal, a second terminal, a switch, and a drive circuit. Exh. C, '851 Pros. History, FCS0000439.

Further, Power Integrations admits that the prior art SMP211 contained an oscillator with a maximum duty cycle as required by claim 1 of the '366 Patent. Exh. E, PI's Response to RFA No. 47. Thus, the only issue is whether the admitted prior art also includes "a soft start circuit".

There is no dispute that the admitted prior art of Figure 1 of the '366 Patent includes "soft start capacitor 110". This is the claimed soft start circuit. Indeed, the specification of the '366 Patent specifically describes this prior art soft start circuit and details its operation:

¹⁰ Claim 10, which depends from claim 9, add an oscillator that generates a maximum duty cycle signal.

Inrush currents are minimized at start up by use of soft start capacitor 110. Soft start functionality is termed to be a functionality that reduces inrush currents at start up. At this instant a current begins to flow through feedback resistor 80 and thereby into soft start capacitor 110. As the voltage of soft start capacitor 110 increases slowly, current will flow through light emitting diode 115 of optocoupler 70 thereby controlling the duty cycle of the switch. Once the voltage of soft start capacitor 110 reaches the reverse breakdown voltage of zener diode 75 current will flow through zener diode 75.

'366 Patent, 2:65-3:8. Power Integrations described Figure 1 of the '366 Patent as "a known power supply utilizing a pulse width modulated switch, *and external soft start....*" '366 Patent, 4:47-48 (emphasis added).

Unable to dispute the contents of the admitted prior art, Power Integrations seeks to avoid a finding of invalidity by advancing a convoluted claim construction for "soft start circuit". Power Integrations argues that (i) the "soft start circuit" element must be construed as a means-plus-function element and (ii) soft start capacitor 110 should be excluded as a corresponding structure. D.I. 152, pp. 17-20. As a matter of law, Power Integrations is wrong on both counts.

First, as set forth fully in Fairchild's claim construction briefs (D.I. 156 and 166), since the "soft start circuit" element lacks "means for" language, there is a "strong presumption" that it is not a means-plus-function element. *Lighting World, Inc. v. Birchwood Lighting, Inc.* 382 F.3d 1354, 1358 (Fed. Cir. 2004). Power Integrations is unable to overcome this presumption since it cannot show that the "soft start circuit" either fails to recite sufficient structure. *See Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000). To the contrary, Power Integrations' own expert agrees that "one of skill in the art could conceive of various 'soft start circuit' *structures* to accomplish the functions recited in the patent claims associated with the soft start circuit...." *See* D.I. 155, Blauschild Decl., ¶ 6 (emphasis added). This is consistent with Federal Circuit decisions that have held that "when the structure connoting term 'circuit' is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of ordinary skill in the art, and § 112 P 6 presumptively will not apply." *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004); *see also Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1371-1372 (Fed. Cir. 2003) ("the term 'circuit' with an appropriate identifier such as 'interface,' 'programming' and 'logic,' certainly identifies some

structural meaning to one of ordinary skill in the art.”).

Second, even were the Court to determine that the “soft start circuit” element was means-plus-function, it must be construed to include soft start capacitor 110 as a corresponding structure. Thus, claims 1, 9, and 10 are invalid. During claim construction, Power Integrations argued without support that the applicants had “disclaimed” soft start capacitor 110. To the contrary, while the ‘366 patent identifies a disadvantage of the prior art soft start circuit (there may be a slight delay before it begins to minimize inrush currents), rather than disclaim this embodiment the specification specifically teaches how to overcome this disadvantage:

The [prior art] approach described above will reduce inrush currents into the power supply, however, it will be several cycles before the light emitting diode 115 will begin conducting. During the several cycles the maximum inrush current will still flow through the primary winding and other secondary side components. During these cycles the transformer may have to be designed utilizing a higher core size than would be required from normal operation even with the use of soft start capacitor as in FIG. 1.

‘366 Patent, 3:8-17.

Therefore, regardless of whether the Court construed the “soft start element” as a typical claim element or as a means-plus-function element that includes the corresponding soft start capacitor taught in Figure 1, claims 1, 9 and 10 of the ‘366 Patent are anticipated by the admitted prior art shown in Figure 1 of the ‘366 Patent and the SMP211.

2. Claim 14 of the ‘366 Patent is anticipated by Figure 1 and the SMP211.

Claim 14 depends from claim 9 but adds a “frequency variation circuit.” As set forth above with respect to the ‘851 Patent, the Examiner specifically noted that such a frequency variation circuit is taught in the admitted prior art shown in Figure 1 of the ‘366 Patent. Exh. C, ‘851 Pros. History, FCS0000439. Thus, as shown in Appendix II, claim 14 of the ‘366 is also anticipated by the admitted prior art shown in Figure 1 and the SMP211.

3. Claims 8 and 18 of the ‘366 Patent are anticipated by Figure 1 and the SMP211.

Like claims 9 and 17 of the ‘851 Patent, claims 8 and 18 of the ‘366 patent require external circuit elements. There is no dispute that these specific elements are taught in the prior

art. Indeed, the Examiner noted during the prosecution of the '851 Patent that all of the additional elements required by claims 8 and 18 of the '366 Patent are found in the admitted prior art shown in Figure 1 of the '851 Patent. Exh. C, '851 Pros. History, FCS0000439. Attached as Appendix II is a chart setting forth how claims 8 and 18 are anticipated by both Figure 1 of the '366 Patent and the SMP211.

4. **Claims 2 and 16 of the '366 Patent are obvious in light of Figure 1 and the SMP211.**

Like claims 2 and 16 of the '851 Patent, claims 2 and 16 of the '366 Patent require that elements of their respective independent claims be "monolithic". As set forth above with respect to the '851 Patent, the Examiner noted that this additional limitation is obvious. Exh. C, '851 Pros. History, FCS0000440. Attached as Appendix II is a chart setting forth how claims 2 and 16 are rendered obvious by Figure 1 of the '366 Patent. Since claims 1 and 9 (from which claims 2 and 16 depend) are anticipated by the admitted prior art, claims 2 and 16 are likewise invalid.

5. **Claims 1, 2, 9, 10 and 16 of the '366 Patent are anticipated by Power Integrations' SMP240 and SMP260 devices.**

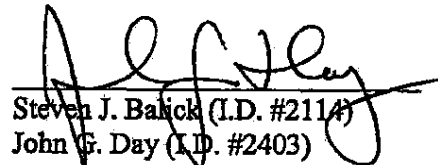
The SMP240 and SMP260 datasheets were publicly available at least as early as 1992. See Exhs. J and K, SMP240 and SMP260 datasheets. Thus, the SMP240 and SMP260 are prior art to both the '851 and '366 Patents. 35 U.S.C. § 102(b).

The SMP240 and SMP260 devices were designed by Leif Lund, one of the inventors of the later '851 and '366 Patents. As set forth in Appendix III, Mr. Lund testified during his deposition, the SMP240 and SMP260 meet every element of many of the claim of the '366 Patent. Thus, these claims are invalid in light of Power Integrations' SMP240 and SMP260 devices and the '366 Patent unenforceable due to Mr. Lund's inequitable conduct. 35 U.S.C. § 102. Moreover, since these claims were first submitted as part of the application leading to the '851 Patent (see, Exh. C, '851 Pros. History, FCS0000372-377), Power Integrations' decision to withhold this material prior art renders unenforceable not just the '366 Patent but the '851 Patent, too. See *Fox Indus.*, 922 F.2d at 804.

IV. CONCLUSION.

For the foregoing reasons, Fairchild respectfully requests that the Court grant summary judgment that the '851 and '366 Patents are unenforceable and that claims 1, 2, 7, 9-11, 16, and 17 of the '851 and claims 1, 2, 8-10, 14, 16, and 18 of the '366 Patents are invalid.

ASHBY & GEDDES



Steven J. Balick (I.D. #2114)
John G. Day (I.D. #2403)
Lauren E. Maguire (I.D. #4261)
222 Delaware Avenue, 17th Floor
Wilmington, Delaware 19801
Telephone: 302-654-1888
sbalick@ashby-geddes.com
jday@ashby-geddes.com
lmaguire@ashby-geddes.com

Attorneys for Defendants

Of Counsel:

G. Hopkins Guy, III
Vickie L. Feeman
Bas de Blank
Brian H. VanderZanden
ORRICK, HERRINGTON & SUTCLIFFE LLP
1000 Marsh Road
Menlo Park, CA 94025
(650) 614-7400

Dated: March 17, 2006

CERTIFICATE OF SERVICE

I hereby certify that on the 24th day of March, 2006, the attached **REDACTED PUBLIC VERSION OF OPENING BRIEF IN SUPPORT OF DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF UNENFORCEABILITY AND INVALIDITY OF U.S. PATENT NOS. 6,107,851 AND 6,229,366** was served upon the below-named counsel of record at the address and in the manner indicated:

William J. Marsden, Jr., Esquire
Fish & Richardson, P.C.
919 N. Market Street
Suite 1100
P.O. Box 1114
Wilmington, DE 19899

HAND DELIVERY

Frank E. Scherkenbach, Esquire
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804

VIA FEDERAL EXPRESS

Michael Kane, Esquire
Fish & Richardson P.C.
60 South Sixth Street
3300 Dain Rauscher Plaza
Minneapolis, MN 55402

VIA FEDERAL EXPRESS

Howard G. Pollack, Esquire
Fish & Richardson P.C.
500 Arguello Street, Suite 500
Redwood City, CA 94063

VIA FEDERAL EXPRESS

Andre G. Bouchard, Esquire
Bouchard Margules & Friedlander, P.A.
222 Delaware Avenue, Suite 1400
Wilmington, DE 19801

HAND DELIVERY

/s/ Lauren E. Maguire

Lauren E. Maguire